

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Carl F. Knopp et al.

Application No: 08/404,253

Filed: Mar. 15, 1995

Patent No: 5,870,167

Issued: Feb. 9, 1999

For: APPARATUS AND METHOD
FOR IMAGING ANTERIOR
STRUCTURES OF THE EYE:

**PETITION AND FEE
AUTHORIZATION FOR
REINSTATEMENT OF PATENT
UNDER 37 CFR §1.378(b) and 35 USC
§41(c)**

Mail Stop Petition
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

This petition is made on behalf of Abbott Medical Optics Inc. (hereinafter "AMO"), an owner of US Patent No. 5,870,167 (hereinafter "the subject patent"), for which reinstatement is hereby requested.

The subject patent lapsed after failure to pay the maintenance fee by the close date of February 9, 2007. The delay between February 9, 2007 and the filing of this petition was unavoidable, as explained herein and established by the attached documents.

This petition is submitted pursuant to the provisions of 37 CFR § 1.378(b). 37 CFR § 1.378(a) and (b) state:

"§1.378 Acceptance of delayed payment of maintenance fee in expired patent to reinstate patent.

(a) The Director may accept the payment of any maintenance fee due on a patent after expiration of the patent if, upon petition, the delay in payment of the

maintenance fee is shown to the satisfaction of the Director to have been unavoidable (paragraph (b) of this section) . . . and if the surcharge required by § 1.20(i) is paid as a condition of accepting payment of the maintenance fee. If the Director accepts payment of the maintenance fee upon petition, the patent shall be considered as not having expired, but will be subject to the conditions set forth in 35 U.S.C. 41(c)(2).

(b) Any petition to accept an unavoidably delayed payment of a maintenance fee filed under paragraph (a) of this section must include:

(1) The required maintenance fee set forth in § 1.20 (e) through (g);

(2) The surcharge set forth in § 1.20(i)(1); and

(3) A showing that the delay was unavoidable since reasonable care was taken to ensure that the maintenance fee would be paid timely and that the petition was filed promptly after the patentee was notified of, or otherwise became aware of, the expiration of the patent. The showing must enumerate the steps taken to ensure timely payment of the maintenance fee, the date and the manner in which patentee became aware of the expiration of the patent, and the steps taken to file the petition promptly.”

First, Applicants hereby authorize payment of the applicable maintenance fee set forth in §1.20(f) of \$3600, the applicable maintenance fee set forth in §1.20(g) of \$7400, and the surcharge set forth in §1.20(i)(1) of \$700. Applicants authorize such payments to be deducted from the undersigned’s USPTO Deposit Account No. 20-1430.

Second, as explained below and established by the attached documents, the delay between February 9, 2007 (the close date for the maintenance fee) and the filing date of this petition was unavoidable. More specifically, reasonable care was taken to ensure that the maintenance fee would be paid timely had the patentee been aware of the expiration of the patent, as can be understood from the care with which the patentee has paid fees for other similarly acquired patents (as documented below). However, AMO was unavoidably

delayed in making payment of the maintenance fee of the subject patent because AMO (including patent counsel for AMO) did not have knowledge of the existence of the subject patent, so that the maintenance fee for the subject patent was never docketed. (See declaration of Andrew Pang - **Exhibit A**)

I. AMO HAS AN OWNERSHIP INTEREST IN THE SUBJECT PATENT THROUGH ACQUISITION OF THE PARENT US 5,474,548 PATENT:

A. The subject patent is a continuation-in-part of an earlier patent (US 5,474,548)

The subject patent was filed as US Patent Application No. 08/404,253 on March 15, 1995 in the name of inventors Carl F. Knopp and David C. Knopp, by James McConnon of the law firm of Paul & Paul.

The subject patent claims priority as a continuation-in-part from US Patent Application No. 08/91,670 filed July 14, 1993 in the name of inventors Carl F. Knopp and Paul R. Yoder, Jr., entitled "Method of Establishing A Unique Machine Independent Reference Frame For The Eye". The subject patent issued on February 9, 1999 and as can be seen from the face of the patent, section [63] under the Related U.S. Application Data, the present patent is a 'Continuation-in-part of Ser. No. 91,670, Jul. 14, 1993, Pat. No. 5,474,548.' (**Exhibit B**) Additionally, as can be seen in column 1, paragraph 1, under Related Applications, 'This application is a continuation-in-part of U.S. patent application Ser. No. 08/091,670 filed Jul. 14, 1993 entitled "Method Of Establishing A Unique Machine Independent Reference Frame For The Eye", now U.S. Pat. No. 5,474,548.' (**Exhibit C**)

B. Assignment of the Parent 5,474,548 Patent

US 5,474,548 (hereinafter "the parent patent") was assigned to Phoenix Laser Systems, Inc. (hereinafter "PLS") by inventors Carl F. Knopp and Paul R. Yoder, Jr. The assignment was recorded with the USPTO on September 20, 1993 as can be seen in the assignment: 1 block, which was downloaded from the USPTO assignment database (**Exhibit D**).

The parent patent was assigned from PLS to VISX Incorporated (hereinafter "VISX") on February 7, 1997 through the bankruptcy trustee of PLS. The assignment was

recorded with the USPTO on February 18, 1997 as can be seen in the assignment: 2 block of **Exhibit D**. The language of the assignment agreement states:

“... I, [bankruptcy trustee], have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over unto the said VISX, Incorporated, its successors, legal representatives and assigns the entire right, title and interest in, to and under the U.S. Patents and Patent Applications, and all divisions, continuations and continuations-in-part thereof,....”

(emphasis added) (**Exhibit E**)

As can be seen in the patent listing on page 1 of **Exhibit E**, ownership of the parent patent was transferred explicitly to VISX. Moreover, the above underlined text of the assignment agreement also granted VISX ownership rights to the subject patent because the subject patent is a continuation-in-part of the parent patent.

On December 31, 2007, VISX changed its name to AMO Manufacturing USA, LLC. The change in name to AMO was officially recorded with the USPTO on January 2, 2008.

II. A PRIOR HIDDEN PURPORTED ASSIGNMENT OF THE SUBJECT PATENT DID NOT ELIMINATE AMO’S VALID OWNERSHIP RIGHTS TO THE SUBJECT PATENT

The confidential files of the law firm of Paul & Paul, which prosecuted the application that issued as the subject patent, included an unrecorded document which purports to assign limited potential rights to that application. More specifically, a purported “Agreement of Sale” dated August 17, 1994 (hereinafter “purported agreement of sale”) (**Exhibit F**) states:

“Subject to the terms and conditions set forth in this agreement, ODC shall purchase from PLS and PLS shall sell and assign to ODC that certain property, described in (1) and (2) bellow as follows:

(1) The equipment and materials listed in Exhibit “A” attached.

(2) The intellectual property, information, and knowledge acquired by [Carl] Fritz Knopp and Jerzy Orkiszewskin in working on the tomography project for PLS.”

PLS has applied for a patent for the “two-point.” That application for a patent is described in Exhibit “B”. If before that patent is granted PLS does not desire or is not able to pursue that patent application, PLS will assign the application to ODC upon ODC paying to PLS all costs and expenses of preparing, filing, and processing that patent application. If notice of allowance of the patent is not obtained within one year of the first payment of \$25,000.00 by ODC, PLS will assign the patent application to ODC upon payment of the costs set forth above.

Co-inventor Carl F. Knopp signed the unrecorded document on behalf of ODC. However, no date is given for the signature on behalf of PLS. There is no indication that the purported acquiring entity (ODC) sought to or did fulfill the requirements to acquire ownership rights to the subject patent (by payment of fees to PLS, etc.), no official record of assignment was filed with the PTO for the subject patent (as can be seen from assignment blocks 1-7 of **Exhibit D**), and the PAIR system does not contain continuity data relating to the subject patent despite its express relationship to the parent patent. (See USPTO PAIR data. **Exhibit G**)

According to 35 U.S.C. §261, “[a]n assignment, grant or conveyance shall be void as against any subsequent purchaser or mortgagee for a valuable consideration, without notice, unless it is recorded in the Patent and Trademark Office within three months from its date or prior to the date of such subsequent purchase or mortgage.” 35 U.S.C. §261; *see also Rhone-Poulenc Agro v. Dekalb Genetics Corp.*, 284 F.3d 1323, 1327 (Fed. Cir. 2002) (“Section 261 provides that a later bona fide purchaser for value without notice (a later assignee) prevails if the earlier assignment was not timely recorded in the patent office.”). Because the record does not indicate ownership rights to the subject patent were ever transferred from PLS prior to their acquisition by VISX, and because the co-inventors of the subject patent and their attorney did not record any assignment of the subject patent with the PTO, VISX was the subsequent bona fide

purchaser for value without notice when VISX subsequently purchased the parent patent and all divisions, continuations and continuations-in-part thereof. In other words, VISX has been a lawful owner of the subject patent since it executed the assignment agreement with the bankruptcy trustee of PLS (**Exhibit E**).

III. REASONABLE CARE WAS TAKEN TO ENSURE THAT THE MAINTENANCE FEE WOULD BE PAID TIMELY IN ACCORDANCE WITH 37 CFR §1.378(b)

AMO did not know of the existence of the subject patent until on or about January 16, 2013 when the subject patent was incidentally discovered. See Declaration of Andrew Pang (**Exhibit A**). VISX was not notified of the existence of the subject patent at the time of the execution of the assignment agreement (**Exhibit E**), and thereby AMO, the acquirer of VISX, similarly did not have knowledge of the existence of the subject patent. Further, because no assignment data was entered with the PTO relating to the subject patent (**Exhibit H**), and the continuity data on PAIR was absent (**Exhibit G**), there was no way that VISX or AMO could have reasonably searched PTO records in order to learn of its existence.

AMO is diligent in the docketing and payment of patent maintenance fees for the patents it knows it holds in its portfolio. AMO, for example, diligently paid the year 12 maintenance fees on the parent patent after acquiring it. See PTO Maintenance Fee Statement (**Exhibit I**). As owner of the subject patent, AMO was eligible to make payment on the maintenance fee of the subject patent during the year eight payment window, and AMO would have diligently done so were it aware of the existence of the patent. (**Exhibit A**)

IV. DISCOVERY OF THE SUBJECT PATENT

On or about January 16, 2013, the subject patent was incidentally discovered by the law firm of Kilpatrick Townsend & Stockton (hereinafter “KTS”), outside counsel for AMO, during a routine patent search. See Declaration of Mark Barrish (**Exhibit J**). Review of the cover page of the subject patent revealed that the subject patent was the child

of the parent, which AMO owns. The PAIR system revealed that the subject patent had expired due to a failure of payment of a maintenance fee, and it was determined that no assignment record was listed on the PTO assignment webpage. KTS immediately informed AMO of the existence of the patent on or about January 16, 2013, which was the first time AMO learned of the existence of the subject patent (**Exhibit A**).

V. THE PETITION WAS FILED PROMPTLY AFTER THE PATENTEE WAS NOTIFIED, OR OTHERWISE BECAME AWARE OF THE EXPIRATION OF THE PATENT, IN ACCORDANCE WITH 37 CFR §1.378(b)

Steps were immediately taken following AMO becoming aware of the existence of the subject patent to investigate ownership and the propriety of submitting the maintenance fee, surcharge, and petition for unavoidable delay in accordance with 37 CFR §1.378(b) and 35 USC § 41(c). See **Exhibit J**, and the Declaration of Uri Greenwald (**Exhibit K**). However, until confidential files of the firm that filed and prosecuted the subject patent could be obtained and reviewed, the subject petition could not be completed and filed until AMO's ownership rights to the subject patent were verified.

On January 18, 2013, the above quoted VISX assignment agreement was reviewed. It was clear from the language of that agreement that AMO, the acquirer of VISX, might have ownership rights relating to the subject patent. However, the confidential files of the law firm of Paul & Paul were not obtained by KTS until on or about March 27, 2013. See **Exhibit K**.

VI. AN ENUMERATION OF THE STEPS TAKEN TO ENSURE TIMELY PAYMENT OF THE MAINTENANCE FEE, THE DATE AND MANNER IN WHICH THE PATENTEE BECAME AWARE OF THE EXPIRATION OF THE PATENT, AND THE STEPS TAKEN TO FILE THE PETITION PROMPTLY

On about January 16, 2013, AMO learned of the existence of the subject patent when KTS discovered the subject patent during a routine patent search. It was soon determined that the patent had expired due to an unpaid maintenance fee. See **Exhibit J** and **Exhibit A**.

Once the subject patent was discovered, Petitioners began a sustained and diligent investigation and review. Among the specific diligence activities included in that review, the findings are documented in the Exhibits attached hereto:

- By about January 18, 2013 AMO located the above quoted assignment agreement between VISX and the bankruptcy trustee of PLS, and it was reviewed. **Exhibit J**
- By about January 24, 2013, the unavoidable delay standard and procedures for preparing and filing a petition under 37 CFR §1.378(b) and 35 USC § 41(c) were generally reviewed. **Exhibit K**
- By about February 1, 2013, the available prosecution history of the subject patent was reviewed. In addition, PTO and Federal Circuit decisions on unavoidable delay were researched.
- By about February 7, 2013, the PTO assignment division was contacted by telephone to confirm the absence of assignment information for the subject patent with the PTO. **Exhibit K**
- By about February 12, 2013, an initial timeline of publicly identifiable events relating to the subject patent was created. **Exhibit K**
- By about February 15, 2013, research findings regarding the unavoidable delay standard and how they apply to the missed maintenance fee payment of the subject patent were documented. **Exhibit K**

- By about February 21, 2013, a listing of documents to seek was prepared by KTS addressing what documents were needed from AMO to support a petition for unavoidable delay under 37 CFR §1.378(b) and 35 USC §41(c). **Exhibit K**
- By about February 22, 2013, the aforementioned facts and timeline were discussed with Andrew Pang, AMO's Patent and Trademark Counsel. Andrew Pang diligently collected all available requested documents, and determined which documents were not available at AMO. **Exhibit J**
- By about March 1, 2013, an email was sent from KTS to James McConnon, the attorney at the firm of Paul & Paul who had filed the subject patent. The email to Mr. McConnon informed him of AMO's ownership interest in the expired subject patent and AMO's intention to file a petition for unavoidable delay under 37 CFR §1.378(b) and 35 USC §41(c). The email further requested that Mr. McConnon transfer to KTS all files relating to the subject patent as quickly as possible. Mr. McConnon did not respond to the email. **Exhibit J**
- By about March 7, 2013, after receiving no response to the email sent to Mr. McConnon and/or to subsequent calls, attorney Alex Sluzas of Paul & Paul was contacted by telephone. Mr. Sluzas requested that the email to Mr. McConnon be forwarded to him, which was done immediately. **Exhibit J**
- On about March 12, 2013, Mr. Sluzas responded to the email and requested documentation of AMO's ownership interest in the subject patent. Documentation of ownership was immediately

provided to Mr. Sluzas via email, after which Mr. Sluzas agreed to send over the relevant files. **Exhibit J**

- On or about March 27, 2013, KTS received the confidential files from the law firm of Paul & Paul. **Exhibit K**
- On March 28, 2013, the contents of the confidential files which were sent from the law firm of Paul & Paul were thoroughly reviewed by KTS, and a copy of the above quoted prior hidden purported assignment was discovered. The files of Paul & Paul's file did not contain any correspondence with either VISX or AMO, nor was there evidence in the confidential files of Paul & Paul that VISX or AMO otherwise knew of the existence of the subject patent at any time before January 16, 2013. **Exhibit K**

VII. REMARKS

The PTO has stated that “[d]ecisions on reviving abandoned applications on the basis of “unavoidable” delay have adopted the reasonably prudent person standard in determining if the delay was unavoidable: The word ‘unavoidable’ . . . is applicable to ordinary human affairs, and requires no more or greater care or diligence than is generally used and observed by prudent and careful men in relation to their most important business.” MPEP § 711.02 (quoting *In re Mattullath*, 38 App. D.C. 497, 514-15 (1912)).

The above stated facts show that co-inventors Carl and David Knopp and their attorney at the law firm of Paul & Paul failed to record any assignment of the subject patent with the PTO thereby making VISX a subsequent bona fide purchaser for value without notice. VISX, the acquirer of the parent ‘568 patent and all continuations thereof, was however unaware of the existence of the subject patent to which it had purchased ownership rights, and thereby AMO, the acquirer of VISX, was unaware of the existence of the subject patent as well. Further, because no assignment data was entered with the PTO and the

continuity data on PAIR was absent, there was no reasonable way that AMO could have learned about the subject patent's existence.

In re Mattullath, 38 App. D.C. 497, 514-15 (1912) held that lack of knowledge of the existence of a patent does create an unavoidable delay. *In re Mattullath*, 38 App. D.C. 497, 514-15 (1912). In *Mattullath*, the petitioner did not know of the existence of a patent application filed by her deceased husband, the ownership rights to which she inherited. *Id.* at 512-13. As part of its reasoning, the court states that while there is generally no excuse for ignorance of the law, the petitioner demonstrated "ignorance of fact, not of law." *Id.* at 513. The court further reasoned that a delay due to not knowing of the existence of a patent "has been shown to be unavoidable in the proper sense of the statute," and does not mean that the petitioner has "slept upon her rights." *Id.* at 515 (internal quotes omitted).

Ray v. Lehman, 55 F.3d 606, 610 (Fed. Cir. 1995) held that lack of knowledge of the need to pay a maintenance fee does not constitute an unavoidable delay. *Ray v. Lehman*, 55 F.3d 606, 610 (Fed. Cir. 1995). In *Ray*, the petitioner failed to pay a maintenance fee on his patent, and filed an unavoidable delay petition with the PTO that "asserted that he had 'no knowledge whatsoever that any maintenance fee would be due in connection' with [his] patent." *Id.* at 607. The court however reasoned that Ray's lack of knowledge of the need for payment of maintenance fees did not demonstrate reasonable prudence as set forth in 37 CFR §1.378(b)(3). *Id.* at 609-619.

In *Femspec L.L.C. v. Dudas*, 2007 U.S. Dist. LEXIS 8482, the court considered an appeal of a petition wherein the "the responsible party was not aware of the requirement that a maintenance fee be paid." *L.L.C. v. Dudas*, 2007 U.S. Dist. LEXIS 8482,*16. In its reasoning the court compared the petitioner's facts to both those of *Ray* and those of *Mattullath*. *Id.* at *26. The court stated that in *Mattullath* "it was established that there are situations in which ignorance of the requirement to pay maintenance fees may support a finding of unavoidable delay." *Id.* at *17 (emphasis in original). The court found the petitioners facts to more closely resemble those of *Ray* such that the petitioner's ignorance did not constitute an unavoidable delay, but had the petitioner's facts resembled those of *Mattullath* the holding would have been otherwise. *Id.* at *15-*27.

AMO's situation is most closely analogous to the facts of *Mattullath*. Here, AMO suffered "ignorance of fact" even more so than the petitioner in *Mattullath*, as AMO could not have reasonably discovered the existence of the '167 patent through PTO data while PTO data was available to the petitioner in *Mattullath*. *Mattullath*, 38 App. D.C. at 512-13. Unlike the petitioner in *Ray*, AMO is fully aware of the law requiring timely payment of maintenance fees, and unlike the petitioner in *Ray*, AMO did not know of the existence of the patent. As such, AMO's delay was characteristically "unavoidable." With proper knowledge of the existence of the '167 patent, AMO would have made timely payment of the fee. AMO has a history with the PTO of paying maintenance fees in a timely manner, and maintains an in-house docketing system in addition to the docketing system of KTS. In short, AMO's situation leading to the delayed payment was more "unavoidable" than the petitioner in *Mattullath*. Under the reasonably prudent person standard, AMO acted as carefully as possible in their important business, and having discovered a fact absent from a string of transactions are acting with the utmost diligence in remedying the delay in payment.

VIII.

As AMO has a lawful ownership interest in the subject patent, and as the subject petition has established that the entire delay in payment of the maintenance fee (from February 9, 2007 to the date of filing of the subject petition) has been unavoidable (primarily due to the existence of the subject patent being kept hidden), Petitioner respectfully requests that the maintenance fee be accepted under 37 CFR §1.378(b).

Respectfully Submitted,

/Mark D. Barrish/

Mark D. Barrish

Reg. No. 36,443

KILPATRICK, TOWNSEND & STOCKTON LLP

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Attachments:

Exhibit A – Declaration of Andrew Pang

Exhibit B – The subject patent coversheet/face of the patent

Exhibit C – The subject patent showing column 1, paragraph 1

Exhibit D – USPTO Assignment data for parent patent

Exhibit E – Assignment Agreement

Exhibit F – Purported Agreement of Sale

Exhibit G – PAIR data showing continuity listing (or lack thereof) for subject patent

Exhibit H – USPTO Assignment data (or lack thereof) for subject patent

Exhibit I – Maintenance fee statement for parent patent

Exhibit J - Declaration of Mark Barrish

Exhibit K – Declaration of Uri Greenwald

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Carl Knopp et al.

Application No: 08/404,253

Filed: Mar. 15, 1995

Patent No: 5,870,167

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For: APPARATUS AND METHOD
FOR IMAGING ANTERIOR
STRUCTURES OF THE EYE:

**DECLARATION BY ANDREW PANG
PATENT AND TRADEMARKS
COUNSEL ABBOTT MEDICAL
OPTICS INC., IN SUPPORT OF
PETITION TO ACCEPT AN
UNAVOIDABLY DELAYED
PAYMENT OF A MAINTENANCE FEE
FOR REINSTATEMENT OF PATENT
UNDER 37 CFR §1.378(b) and 35 USC
§41(c)**

Mail Stop Petition
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

I am the Patent and Trademark Counsel for Abbott Medical Optics Inc. (hereinafter "AMO"), a position I have held for about the past six years. AMO is diligent in payment of maintenance fees and maintains an in-house patent docketing system. As owner of the subject patent, AMO was eligible to make payment on the maintenance fee of the subject patent during the year eight payment window, and AMO would have diligently done so were it aware of the existence of the patent. However, AMO was unable to docket the patent, and thereby AMO was unavoidably delayed in making payment of the maintenance fee of the subject patent.

On about January 16, 2013, I was informed of the existence of the subject patent by our outside counsel Mark Barrish, Partner at KTS. I was previously unaware of the existence of the subject patent, and I requested that Mr. Barrish investigate the ownership status of the patent as it was unclear as to who owned the subject patent at the time of its discovery.

On about January 18, 2013, I located and provided Mr. Barrish with an assignment agreement between VISX and the bankruptcy trustee of Phoenix Laser Systems, Inc. Mr.

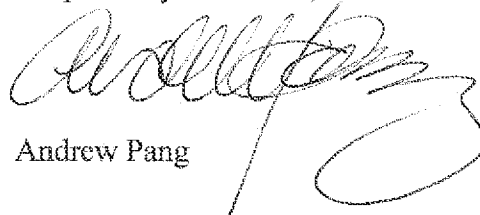
Barrish determined from the VISX agreement that AMO had ownership rights to the subject patent. Because the subject patent is considered AMO's most important business, I requested that Mr. Barrish diligently file the enclosed petition under 37 CFR §1.378(b) and 35 USC §41(c) in order to reinstate the subject patent. I further affirm that I worked with Mr. Barrish to diligently prepare the enclosed petition.

I, the undersigned, respectfully submit that the delay in payment of a maintenance fee for the subject patent was unavoidable since AMO did not know of the existence of the subject patent until January 16, 2013. I further, submit that immediately following learning of the existence of the subject patent, steps were taken to diligently file the instant petition in accordance with 37 CFR §1.378(b) and 35 USC § 41(c).

It is therefore respectfully requested that an unavoidably delayed payment of the maintenance fees for the subject patent be accepted and the patent be reinstated.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the patent.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Andrew Pang', is written over a horizontal line.

Andrew Pang



US005870167A

United States Patent [19][11] **Patent Number:** **5,870,167****Knopp et al.**[45] **Date of Patent:** **Feb. 9, 1999**[54] **APPARATUS AND METHOD FOR IMAGING ANTERIOR STRUCTURES OF THE EYE**[76] Inventors: **Carl F. Knopp**, 2428 Armstrong, Livermore, Calif. 94550; **David C. Knopp**, 2015 28th Ave. South, Minneapolis, Minn. 55406[21] Appl. No.: **404,253**[22] Filed: **Mar. 15, 1995****Related U.S. Application Data**

[63] Continuation-in-part of Ser. No. 91,670, Jul. 14, 1993, Pat. No. 5,474,548.

[51] **Int. Cl.⁶** **A61B 3/10**[52] **U.S. Cl.** **351/212; 351/208; 351/221**[58] **Field of Search** **351/205, 208, 351/209, 210, 211, 212, 214, 221, 243, 247; 359/31, 23****References Cited****U.S. PATENT DOCUMENTS**

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4,411,502	10/1983	Lang et al.	351/206
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5,474,548	12/1995	Knopp et al.	351/237
5,512,965	4/1996	Snook	351/212

FOREIGN PATENT DOCUMENTS

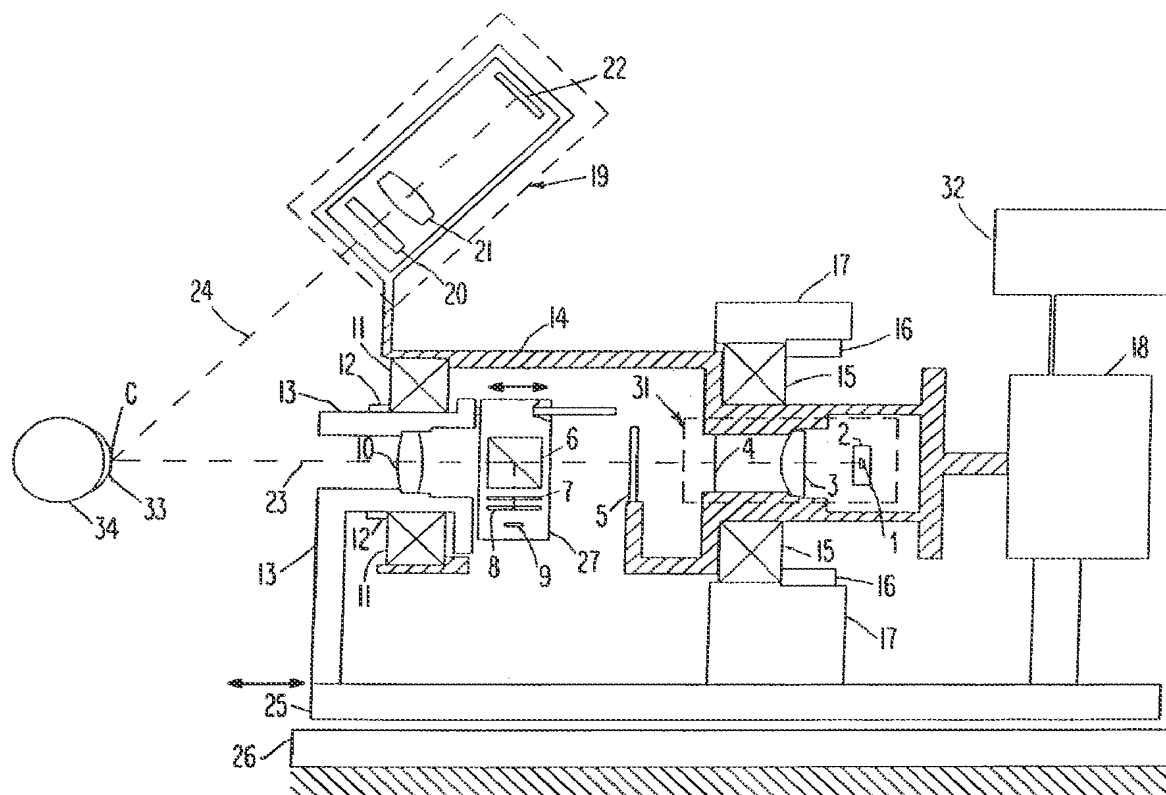
1-285242 11/1989 Japan 351/212

OTHER PUBLICATIONS

Otto Hockwin, Kazuyuki and Disney Lerman "Evaluating Cataract Development with the Scheimpflug Camera", Chapter 16, 6 pgs.

Primary Examiner—Huy Mai*Attorney, Agent, or Firm*—Paul & Paul[57] **ABSTRACT**

An apparatus and method provides images of the anterior structure of the eye which can be captured. Various slit lamp projections are captured by a camera utilizing a CCD along the line of sight axis so that all images which are taken are referenced to the line of sight and are reproducible along that axis.

41 Claims, 8 Drawing Sheets

5,870,167

1

APPARATUS AND METHOD FOR IMAGING ANTERIOR STRUCTURES OF THE EYE

RELATED APPLICATIONS

This application is a continuation-in-part of U.S. patent application Ser. No. 08/091,670 filed Jul. 14, 1993 entitled "Method Of Establishing A Unique Machine Independent Reference Frame For The Eye", now U.S. Pat. No. 5,474,548.

FIELD OF INVENTION

This invention relates to a device for mapping the structures of the eye.

DESCRIPTION OF PRIOR ART

Topographic mapping of the cornea, generally known as keratometry or keratography, has been utilized to both measure the front shape of the cornea and detect corneal shape irregularities. In recent years sophisticated keratography methods have been developed, coupled with computer assisted analysis and display of derived corneal shapes. These methods, combined with an image grabber such as a video camera plus storage device are usually known as videokeratography.

The most common videokeratography method used presently is based on placido disk illumination. Concentric rings of known size and configuration are projected onto the cornea and the sizes and distances of the reflections are measured. Using various algorithms, these measurements are compared to the known sizes and distances, and an image of the anterior surface of the cornea constructed. Examples of placido-based systems are the Topographic Modeling System (TMS) made by Computed Anatomy (Tomey), the EyeSys Corneal Analysis System and the Visio EH-270 Computerized Corneal Topographer from Visioptic, Inc. Examples of the image processing methods and the sophisticated algorithms required in such placido disc based devices have been described by Gersten et al in U.S. Pat. No. 4,863,260 and by Snook in U.S. Pat. No. 5,110,200.

Such methods rely on specular reflection of the concentric rings from the highly reflective tear film of the cornea. Yet these reflections in two dimensions are being used to construct the three dimensional image. This is an important limitation of the placido disk based prior art. The two dimension data used is insufficient to construct a complete three dimensional map. Pits, valleys, or other irregularities may not be adequately conveyed by the reflections in two dimensions and thus an accurate three dimensional image may not be constructed. Furthermore, the algorithms used in the conversion may attempt to compensate for known gaps by using dithering and other extrapolation techniques to "fill-in" the gaps. These extrapolation techniques might make, unknown to the operator, certain assumptions about the surface. This results in the operator being unable to correct for those assumptions, even if he or she wished to. The algorithms might, as well, erroneously assume a constant curvature of the cornea. This is not the case for most individuals.

The technique also often excludes measurement of various parts of the cornea, due to insurmountable mechanical limitations. For example, reflection of the center of the disks provides no information to the system. Thus an area of up to 1 mm or larger might be excluded from the mapping. For another example, the outer one third of the cornea might not be mapped, because the incident pattern makes an increas-

2

ingly acute angle with the cornea, so that the spatial resolution of the reflected pattern becomes increasingly poor.

There also might be portions of the corneal surface that are simple obscured, due to some anatomical feature, and thus cannot be mapped by the placido disk method at all. Finally, sheer operator error might contribute to erroneous readings.

Taken together, these limitations can result in dioptric errors of 1 to 2 diopters with the errors becoming larger towards the periphery. Key sources of errors common to these techniques are described by Roberts in *Investigative Ophthalmology and Visual Science*, Volume 35, 1994, pages 3525-3532, and *Refractive & Corneal Surgery*, Volume 9, pages 347-357.

There are other technologies currently under investigation which claim to overcome some or all of the above shortcomings. These include raster photogrammetry, specifically the PAR Corneal Topography System (from PAR Technology), laser holography (e.g., the CLAS Corneal Topography Unit from Kerametrics, Inc.) and projected fringe contouring (e.g., in the device made by Visionary Systems, Inc.). However, all of these techniques rely again on specular reflection which must in some cases be enhanced using physical means such as talcum powder. Thus, they again might face the two to three dimensional manipulation problem. So, while enhanced accuracy of the reconstructed surface and coverage of the central zone may be claimed with some of these alternate techniques, they also still have the drawback of decreasing spatial resolution with increasing distance from the center of the cornea.

Perhaps the greatest problem with placido disk or any other reflection technique is the lack of a constant, easily reproducible and verifiable reference point on the cornea. The cornea lacks a structure that can be used as a measurement reference point. Thus any sort of attempt to center the measurements on the cornea or precisely reproduce the map is difficult in a normal diagnostic setting such as a practitioner's office.

This difficulty becomes especially apparent when the attempt is made to correlate reflective techniques, which usually map the corneal surface with other techniques commonly used to measure other aspects of the anterior structure. For example, equipment presently used for measuring corneal thickness consists, typically, of a pachymeter using ultrasonic-ranging for determining the thickness of the cornea at discrete locations on the surface. The pachymetry measurements may be performed manually on an individual point-by-point basis, using commercially available instruments. These generally employ a hand-held transducer probe flexibly connected to a power supply and display means. Examples of such equipment are the Myopach ultrasonic pachymeter available from Myocure, Inc. or the Villasensor, from Cilco, Inc. In using such equipment, a fixation target enables the unexamined eye of the patient to maintain some central-axis stability when the probe is placed on the corneal surface. Difficulties arise with this technique because the measured thickness data must still somehow be correlated with the location at which it is taken even though varying methods for patient alignment are used. As a result, associating corneal thickness data with corneal radius of curvature involves attempting to match two entirely different data sets and often, at best, results in only an approximate correlation of the two. Compounding the potential for inaccuracy in attempting such associations is the use by current topography devices of differing methods to define alignment, methods which cannot necessarily be correlated with pachymetry, or even with each other, without ambiguity.

EXHIBIT D



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**NOTE: Results display only for issued patents and published applications.
For pending or abandoned applications please consult USPTO staff.**

Total Assignments: 7**Patent #:** 5474548**Issue Dt:** 12/12/1995**Application #:** 08091670**Filing Dt:** 07/14/1993**Inventors:** CARL F. KNOPP, PAUL R. YODER JR.**Title:** METHOD OF ESTABLISHING A UNIQUE MACHINE INDEPENDENT REFERENCE FRAME FOR THE EYE**Assignment: 1****Reel/Frame:** 006707/0982**Recorded:** 09/20/1993**Pages:** 3**Conveyance:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).**Assignors:** KNOPP, CARL F.**Exec Dt:** 09/10/1993YODER, PAUL R., JR.**Exec Dt:** 09/13/1993**Assignee:** PHOENIX LASER SYSTEMS, INC.

4127 BAY STREET #C210

FREMONT, CALIFORNIA 94538

Correspondent: THOMAS M. FREIBURGER

650 CALIFORNIA STREET

29TH FLOOR

SAN FRANCISCO, CA 94108

Assignment: 2**Reel/Frame:** 008401/0544**Recorded:** 02/18/1997**Pages:** 6**Conveyance:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).**Assignor:** PHOENIX LASER SYSTEMS, INC.**Exec Dt:** 02/07/1997**Assignee:** VISX INCORPORATED

3400 CENTRAL EXPRESSWAY

SANTA CLARA, CALIFORNIA 95051

Correspondent: THOMAS M. FREIBURGER

PATENT & TRADEMARK & COPYRIGHT LAW

650 CALIFORNIA STREET, 29TH FLOOR

SAN FRANCISCO, CA 94108

Assignment: 3**Reel/Frame:** 016345/0640**Recorded:** 08/04/2005**Pages:** 67**Conveyance:** INTELLECTUAL PROPERTY SECURITY AGREEMENT**Assignor:** VISX, INCORPORATED**Exec Dt:** 05/27/2005**Assignee:** BANK OF AMERICA, N.A., AS ADMINISTRATIVE AGENT

1455 MARKET STREET

CA5-701-12-09

SAN FRANCISCO, CALIFORNIA 94103

Correspondent: MOORE & VAN ALLEN PLLC

430 DAVIS DRIVE

SUITE 500

MORRISVILLE, NC 27560

Assignment: 4**Reel/Frame:** 019122/0101**Recorded:** 04/05/2007**Pages:** 6**Conveyance:** RELEASE OF SECURITY INTEREST AT REEL/FRAME NO. 16345/0640

EXHIBIT D

Assignor: BANK OF AMERICA, N.A.**Exec Dt:** 04/02/2007**Assignee:** VISX, INCORPORATED3400 CENTRAL EXPRESSWAY
SANTA CLARA, CALIFORNIA 95051**Correspondent:** LATHAM & WATKINS LLP
650 TOWN CENTER DRIVE
SUITE 2000
COSTA MESA, CA 92626**Assignment: 5****Reel/Frame:** 019501/0142**Recorded:** 06/29/2007**Pages:** 66**Conveyance:** INTELLECTUAL PROPERTY SECURITY AGREEMENT**Assignor:** VISX, INCORPORATED**Exec Dt:** 04/02/2007**Assignee:** BANK OF AMERICA, N.A., AS ADMINISTRATIVE AGENT101 N. TRYON STREET
MAIL CODE NC1-001-15-02
CHARLOTTE, NORTH CAROLINA 28255**Correspondent:** LATHAM & WATKINS LLP
650 TOWN CENTER DRIVE, SUITE 2000
COSTA MESA, CA 92626**Assignment: 6****Reel/Frame:** 020309/0171**Recorded:** 01/02/2008**Pages:** 7**Conveyance:** CHANGE OF NAME (SEE DOCUMENT FOR DETAILS).**Assignor:** VISX, INCORPORATED**Exec Dt:** 12/31/2007**Assignee:** AMO MANUFACTURING USA, LLC3400 CENTRAL EXPRESSWAY
SANTA CLARA, CALIFORNIA 95051**Correspondent:** ADVANCED MEDICAL OPTICS, INC.
1700 E. ST. ANDREW PLACE
SANTA ANA, CA 92705**Assignment: 7****Reel/Frame:** 022331/0698**Recorded:** 03/03/2009**Pages:** 49**Conveyance:** RELEASE BY SECURED PARTY (SEE DOCUMENT FOR DETAILS).**Assignor:** BANK OF AMERICA, N.A., AS ADMINISTRATIVE AGENT**Exec Dt:** 02/25/2009**Assignee:** AMO MANUFACTURING USA, LLC; FORMERLY VISX, INCORPORATED1700 E ST. ANDREW PLACE
SANTA ANA, CALIFORNIA 92705**Correspondent:** DANIELLE RUCKLE
77 W WACKER DR
JONES DAY
CHICAGO, IL 60601-1692

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08/404,253	APPARATUS AND METHOD FOR IMAGING ANTERIOR STRUCTURES OF THE EYE	356-94	04-26- 2013::13:03:24
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Parent Continuity Data

Description	Parent Number	Parent Filing or 371(c) Date	Parent Status	Patent Number
No Parent Continuity Data Found.				

Child Continuity Data

08/972,626 filed on 11-18-1997 which is Patented claims the benefit of 08/404,253

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Assignment Data Not Available

For Patent Number: 5870167

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EXHIBIT I

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**United States
Patent and
Trademark Office**

[Finance Online Shopping Page](#)**Maintenance Fee Statement****04/12/2013 07:12 PM EDT**

Patent Number: 5474548

Customer Number: 000000000

THOMAS M. FREIBURGER
650 CALIFORNIA STR., 29TH FLOOR
SAN FRANCISCO CA 94108

According to the records of the U.S. Patent and Trademark Office (USPTO), the maintenance fee and any necessary surcharge have been timely paid for the patent listed below. The "PYMT DATE" column indicates the payment date (i.e., the date the payment was filed).

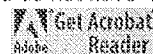
The payment shown below is subject to actual collection. If the payment is refused or charged back by a financial institution, the payment will be void and the maintenance fee and any necessary surcharge unpaid.

Direct any questions about this statement to: Mail Stop M Correspondence, Director of the USPTO, P.O. Box 1450, Alexandria, VA 22313-1450.

PATENT NUMBER	FEE AMT	SUR- CHARGE	PYMT DATE	U.S. PATENT APPLICATION NUMBER	ISSUE DATE	APPL. FILING DATE	PAYMENT YEAR	ENTITY STATUS	ATTY DKT NUMBER
5474548	\$3,800.00	\$0.00	06/12/07	08091670	12/12/95	07/14/93	12	LARGE	332P

Click [here](#) to obtain your Maintenance Fee Statement as a PDF.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Carl Knopp et al.

Application No: 08/404,253

Filed: Mar. 15, 1995

Patent No: 5,870,167

Issued: Feb. 9, 1999

For: APPARATUS AND METHOD
FOR IMAGING ANTERIOR
STRUCTURES OF THE EYE:

**DECLARATION BY MARK BARRISH
PARTNER KILPATRICK TOWNSEND
& STOCKTON, IN SUPPORT OF
PETITION TO ACCEPT AN
UNAVOIDABLY DELAYED
PAYMENT OF A MAINTENANCE FEE
FOR REINSTATEMENT OF PATENT
UNDER 37 CFR §1.378(b) and 35 USC §
41(c)**

Mail Stop Petition
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

I am a partner at the law firm of Kilpatrick Townsend & Stockton (hereinafter "KTS") and I have served as outside counsel for Abbott Medical Optics Inc. (hereinafter "AMO") for at least about the past 13 years, working closely with AMO to help develop and manage their laser vision correction patent portfolio. I am submitting the enclosed petition for unavoidably delayed payment of a maintenance fee for reinstatement of the above referenced patent under 37 CFR §1.378(b) and 35 USC §41(c).

AMO has been diligent in payment of patent maintenance fees, which it insures in part by maintaining an in-house patent docketing system.

On about January 16, 2013, I learned of the existence of the subject patent. The subject patent was discovered in the course of a patent search for third party patents. I was previously unaware of the existence of the subject patent. Because the subject patent claimed priority to U.S. Pat. No. 5,474,548 (parent '548 patent), which AMO owns, I believed at that time that there was a possibility that AMO might have rights to the subject patent. The PTO assignment

database was checked and did not contain any assignment information for the subject patent. Additionally the PAIR database did not have any continuity data for the subject patent either, despite the subject patent explicitly stating that it was a continuation-in-part of the parent '548 patent on its cover page and in its specification. Andrew Pang, Patent Counsel at AMO, was soon notified of the existence of the subject patent and that AMO might hold ownership rights to it. Mr. Pang requested that I look further into the ownership of the subject patent that same day.

I affirm that I supervised and worked with Uri Greenwald, a law clerk at KTS, to diligently prepare the enclosed petition:

On about February 22, 2013, I called Mr. Pang to discuss the progress made on the petition and to request certain documents. I learned that Mr. Pang had diligently already located most of the documents that I requested on his own in anticipation of submission of the petition.

On about March 1, 2013, I contacted attorney James McConnon of Paul & Paul via email and requested that all files relating to the subject patent be transferred to me. My email stated that "timely response to this request would be appreciated. Please understand that we need these files on an expedited basis to seek to secure our client's rights, and thank you in advance for your diligence in helping us with this matter." (**Attachment 1**)

By about March 7, 2013, after not receiving a response from Mr. McConnon, I made a series of calls to the law firm of Paul & Paul and eventually spoke to attorney Alex Sluzas. Per Mr. Sluzas' request, the email to Mr. McConnon was forwarded to him.

On March 12, 2013, Mr. Sluzas responded to the email and requested documentation of AMO's ownership interest in the subject patent. I immediately provided documentation of ownership to Mr. Sluzas via email, after which Mr. Sluzas agreed to send over the relevant files. (**Attachment 2**)

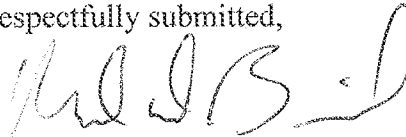
On or around March 27, 2013, I received the files from Paul & Paul and performed an initial review of them. I reviewed Mr. Greenwald's findings from the files after his review of the files soon thereafter.

I submit that, immediately following learning of the existence of the subject patent, steps were taken to diligently file the instant petition in accordance with 37 CFR §1.378(b) and 35 USC §41(c).

It is therefore respectfully requested that an unavoidably delayed payment of the maintenance fees for the subject patent be accepted and the patent be reinstated.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the patent.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Mark D. Barrish', written in a cursive style.

Mark D. Barrish

McDill, Lisa

From: Barrish, Mark
Sent: Friday, March 01, 2013 11:36 AM
To: jmccannon@paulandpaul.com
Cc: Pang, Andrew (Legal) (Andrew.Pang@amo.abbott.com); McDill, Lisa
Subject: US Patent Nos. 5,870,167 & 5,886,768 to Knopp et al. (KT Ref.: 82906-864706)

VIA E-MAIL ONLY, to jmccannon@paulandpaul.com

March 1, 2013

Re: File Transfer Request:

US Patent No. 5,870,167
For: Apparatus and Method for Imaging Anterior Structures of the Eye
Filed: March 15, 1995
Our Ref.: 82906-864706

US Patent No. 5,886,768
For: Apparatus and Method for Imaging Interior Structures of the Eye
Filed: November 18, 1997
Our Ref.: 82906-864706

Dear Mr. McConnon:

We have recently learned that your firm prosecuted the two patents listed above. Our client, Abbott Medical Optics Inc. (AMO), is the assignee of the parent application from which these two cases claim priority, and has an ownership interest in these patents.

I am writing you on behalf of our client to request that you please immediately transfer your complete files for these two cases, including all relevant correspondence to or from your firm relating to the above referenced patents.

Electronic copies of the files can be transferred to me directly at mbarrish@kilpatricktownsend.com and/or hard copies can be sent by overnight delivery to:

Attn: Mark Barrish
Partner, Kilpatrick Townsend & Stockton LLC
1080 Marsh Road
Menlo Park, CA 94025

Your timely response to this request would be appreciated. Please understand that we need these files on an expedited basis to seek to secure our client's rights, and thank you in advance for your diligence in helping us with this matter.

Sincerely,



Mark Barrish

Kilpatrick Townsend & Stockton LLP

1080 Marsh Road | Menlo Park, CA 94025

office 650 324 6370 | fax 650 745 0986

mbarrish@kilpatricktownsend.com | [My Profile](#) | [vCard](#)

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Barrish, Mark

From: Barrish, Mark
Sent: Wednesday, March 13, 2013 3:03 PM
To: 'Alex Sluzas'
Cc: James McConnon; McDill, Lisa; Greenwald, Uri
Subject: RE: US Patent Nos. 5,870,167 & 5,886,768 to Knopp et al. (KT Ref.: 82906-864706)
Attachments: us5474548_CIP_assignment_Redacted.pdf; US5870167.pdf; 5474548 assignment information.pdf

Alex,

Thanks for your e-mail, and for pulling these files.

Regarding proof of AMO's ownership info, please find attached a copy of the '167 patent. Note that the face of the patent indicates that it is a CIP of US 5474548.

Also attached is a print-out of the USPTO assignment info for the '548 patent, along with a redacted agreement assigning both the '548 patent and CIP's of the '548 patent to VISX. Per the USPTO database, AMO (my client) is the successor in interest of VISX for these rights. The '768 patent similarly claims priority to the '167 patent.

As you are aware, we will need to act diligently if we are to revive one or both of these patents. We look forward to receipt of the files at your earliest convenience.

Thanks,
 Mark

Mark Barrish
 Kilpatrick Townsend & Stockton LLP
 1080 Marsh Road | Menlo Park, CA 94025
 office 650 324 6370 | fax 650 745 0986
mbarrish@kilpatricktownsend.com | [My Profile](#) | [vCard](#)

From: Alex Sluzas [<mailto:ASluzas@paulandpaul.com>]
Sent: Tuesday, March 12, 2013 11:49 AM
To: Barrish, Mark
Cc: James McConnon
Subject: RE: US Patent Nos. 5,870,167 & 5,886,768 to Knopp et al. (KT Ref.: 82906-864706)

Mr. Barrish:

We are retrieving our files from remote storage.

I note that there is no assignment information regarding US Patent Nos. 5,870,167 or 5,886,768 on the PTO website.

We will need to have proof of your client's ownership interest before we can provide you with our files.

Best regards.

Alex Sluzas
 Paul & Paul

ars@paulandpaul.com

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From: Barrish, Mark [<mailto:mbarrish@kilpatricktownsend.com>]
Sent: Thursday, March 07, 2013 4:35 PM
To: Info
Cc: McDill, Lisa
Subject: FW: US Patent Nos. 5,870,167 & 5,886,768 to Knopp et al. (KT Ref.: 82906-864706)
Importance: High

I am re-sending this e-mail per the suggestion of Alex Sluzas during our telephone conversation of this afternoon. I look forward to hearing back from you at your earliest convenience.

Mark Barrish
 Kilpatrick Townsend & Stockton LLP
 1080 Marsh Road | Menlo Park, CA 94025
 office 650 324 6370 | fax 650 745 0986
mbarrish@kilpatricktownsend.com | [My Profile](#) | [vCard](#)

From: Barrish, Mark
Sent: Friday, March 01, 2013 11:37 AM
To: 'jmccannon@paulandpaul.com'
Cc: Pang, Andrew (Legal) (Andrew.Pang@amo.abbott.com); McDill, Lisa
Subject: US Patent Nos. 5,870,167 & 5,886,768 to Knopp et al. (KT Ref.: 82906-864706)

VIA E-MAIL ONLY, to jmccannon@paulandpaul.com

March 1, 2013

Re: File Transfer Request:

US Patent No. 5,870,167
 For: Apparatus and Method for Imaging Anterior Structures of the Eye
 Filed: March 15, 1995
Our Ref.: 82906-864706

US Patent No. 5,886,768
 For: Apparatus and Method for Imaging Interior Structures of the Eye
 Filed: November 18, 1997
Our Ref.: 82906-864706

Dear Mr. McConnon:

We have recently learned that your firm prosecuted the two patents listed above. Our client, Abbott Medical Optics Inc. (AMO), is the assignee of the parent application from which these two cases claim priority, and has an ownership interest in these patents.

I am writing you on behalf of our client to request that you please immediately transfer your complete files for these two cases, including all relevant correspondence to or from your firm relating to the above referenced patents.

Electronic copies of the files can be transferred to me directly at mbarrish@kilpatricktownsend.com and/or hard copies can be sent by overnight delivery to:

Attn: Mark Barrish
Partner, Kilpatrick Townsend & Stockton LLC
1080 Marsh Road
Menlo Park, CA 94025

Your timely response to this request would be appreciated. Please understand that we need these files on an expedited basis to seek to secure our client's rights, and thank you in advance for your diligence in helping us with this matter.

Sincerely,
Mark Barrish



Mark Barrish
Kilpatrick Townsend & Stockton LLP
1080 Marsh Road | Menlo Park, CA 94025
office 650 324 6370 | fax 650 745 0986
mbarrish@kilpatricktownsend.com | [My Profile](#) | [vCard](#)

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Carl Knopp et al.

Application No: 08/404,253

Filed: Mar. 15, 1995

Patent No: 5,870,167

Issued: Feb. 9, 1999

For: APPARATUS AND METHOD
FOR IMAGING ANTERIOR
STRUCTURES OF THE EYE:

**DECLARATION BY URI
GREENWALD, LAW CLERK FOR
KILPATRICK TOWNSEND &
STOCKTON, IN SUPPORT OF
PETITION TO ACCEPT AN
UNAVOIDABLY DELAYED
PAYMENT OF A MAINTENANCE FEE
FOR REINSTATEMENT OF PATENT
UNDER 37 CFR §1.378(b) and 35 USC
§41(c)**

Mail Stop Petition
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

I am a law clerk at the law firm of Kilpatrick Townsend & Stockton (hereinafter "KTS") and I helped prepare the petition to accept an unavoidably delayed payment of a maintenance fee for reinstatement of the above referenced patent under 37 CFR §1.378(b) and 35 USC §41(c), as filed herewith.

On about January 24, 2013, I was assigned the project of investigating, and if appropriate, drafting the petition to accept an unavoidably delayed payment of a maintenance fee for the subject patent. I was not previously aware of the existence of the subject patent. I began working on the project on about January 24, 2013, performing research relating to the unavoidable delay standard and procedures for preparing and submitting a petition to accept an unavoidably delayed payment of a maintenance fee for the subject patent. I affirm that I have worked diligently to prepare the petition promptly under the supervision of Mr. Barrish.

On about January 24, 2013, I reviewed the unavoidable delay standard and I generally reviewed the procedures for preparing and filing a petition under 37 CFR §1.378(b) and 35 USC §41(c).

From about January 24, 2013 to about February 1, 2013, I reviewed the available prosecution history of the subject patent. In addition, I researched PTO and Federal Circuit decisions on unavoidable delay.

About February 7, 2013, I contacted the PTO assignment division by telephone to confirm the absence of assignment information for the subject patent with the PTO. It was confirmed.

Between about February 7 and about February 12, 2013, I created a detailed timeline of events relating to the subject patent.

Between about February 12 and about February 15, 2013, I drafted an office memo addressing research findings regarding the unavoidable delay standard and how they apply to the missed maintenance fee payment of the subject patent.

Between about February 15 and about February 21, 2013, I drafted an office memo addressing what documents were needed from AMO to support a petition for unavoidable delay under 37 CFR § 1.378(b) and 35 USC §41(c).

On or about March 27, 2013, the confidential files arrived from Paul & Paul, and I soon thereafter began thorough review of the files and reviewed every document therein. I affirm that there was no evidence in the Paul & Paul files that either VISX or AMO was contacted by Paul & Paul or the patent co-inventors in regards to the subject patent, nor was there evidence in the confidential files of Paul & Paul that VISX or AMO otherwise knew of the existence of the subject patent at any time before January 16, 2013. Located in the confidential Paul & Paul files were copies of a previously hidden agreement between co-inventor Carl Knopp and Phoenix Laser Systems, Inc. which I discovered and reviewed together with Mr. Barrish. **Exhibit G of the Petition**

I, the undersigned, respectfully submit that immediately following learning of the existence of the subject patent, steps were taken to diligently file the instant petition in accordance with 37 CFR §1.378(b) and 35 USC §41(c).

It is therefore respectfully requested that an unavoidably delayed payment of the maintenance fees for the subject patent be accepted and the patent be reinstated.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the patent.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Uri Greenwald".

Uri Greenwald, MD